

the pressure and temperature of the mixture in the conduit are such that the compressible fluid antisolvent substance remains in a compressed state over at least part of the length of the conduit, and

the pressure and temperature in the downstream region are such that the compressible fluid antisolvent substance is present therein in a gaseous state and the material separates from the mixture in a particulate state as a consequence of the conversion of the compressible fluid antisolvent into a gas.

Please add the following claims:

⁴²
~~41~~(new). A process according to claim 1, wherein the compressible fluid antisolvent substance is in a supercritical fluid state over at least a part of the length of the conduit.

⁴³
~~42~~(new). A process according to claim 1, wherein in the downstream region the pressure is in the range from 1-20 bar, and the temperature is in the range from 0-50°C.

⁴⁴
~~43~~(new). A process according to claim ⁴³~~42~~, wherein, in the downstream region, the pressure is around atmospheric.

⁴⁵
~~44~~(new). A process according to claims 1, wherein the compressible fluid antisolvent substance comprises carbon dioxide.

⁴⁶
~~45~~(new). A process according to claim ⁴⁵~~44~~, wherein the carbon dioxide is in a supercritical fluid state over at least a part of the length of the conduit.

⁴⁷
~~46~~(new). A process according to claim 1, wherein the solvent is an organic solvent selected from C₁₋₅ alkyl C₁₋₅ alkanate esters, C₁₋₅ alcohols, and di- C₁₋₅ alkyl ketones, halogenated organic solvents, water, and mixtures thereof.

⁴⁸
~~47~~(new). A process according to claim 1, wherein the solvent is saturated or near saturated with the material.

⁴⁹
~~48~~(new). A process according to claim ⁴²~~41~~, wherein the ratio of the flow rate of the stream of said antisolvent substance in a supercritical fluid state to the flow rate of the stream of a dispersion of said material in a solvent is 50 : 1 or less.

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~~49~~(new). A process according to claim 1, wherein one or more solid additives, are introduced, as a dispersion in a carrier vehicle, into the mixture of the material, the solvent and the compressible fluid antisolvent substance.

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~~50~~(new). A process according to claim 1, wherein one or more additives, and/or modifiers, are introduced into the mixture of the material, the solvent and the compressible fluid antisolvent substance.

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~~51~~(new). A process according to claim ⁵¹~~50~~, wherein the additive and/or modifier is introduced into the stream of dispersion of the material and/or the stream of a compressible fluid antisolvent substance.

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~~52~~(new). A process according to claim ⁵¹~~50~~, wherein the additive and/or modifier is mixed with one or both of said streams before the streams are brought into contact with each other.

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~~53~~(new). A process according to claim ⁵¹~~50~~, wherein the one or more additives and/or modifiers are separately introduced into the region where the streams are brought into contact with each other.

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~~54~~(new). A process according to claim ⁵¹~~50~~, wherein the one or more additives and/or modifiers are introduced into the mixture of the dispersion and the compressible fluid antisolvent substance at the region where the streams of the dispersion and compressible fluid antisolvent substance are brought into contact with each other.

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~~55~~(new). A process according to claim ⁵¹~~50~~, wherein the one or more additives and/or modifiers are introduced into the mixture of the dispersion and the compressible fluid antisolvent substance, in the conduit between the region where the streams come into contact and the orifice.

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~~56~~(new). A process according to claims ⁵¹~~50~~, wherein the one or more additives is an excipient material.

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~~57~~(new). A process according to claim 1, wherein one or more solid additives, are introduced, as a dispersion in a carrier vehicle, into the mixture of the material, the solvent and the compressible fluid antisolvent substance, said compressible fluid antisolvent substance decompresses from said compressed state, and the one or more

additives are introduced into the mixture of the dispersion and the compressible fluid antisolvent substance after said compressible fluid antisolvent substance decompresses.

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58(new). A process for forming a co-formulation of a material and an additive in which a mixture of a material and an additive is produced by introducing the additive, in a fluid carrier vehicle, into a mixed stream in a compressed state, the mixed stream comprising the material and a compressible fluid antisolvent substance, and then causing the mixed stream, including the additive, to flow into a downstream region where the compressible fluid antisolvent substance decompresses.

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59(new). A process according to claim 58, wherein said material and said compressible fluid antisolvent substance are brought together at a location in a conduit, said mixed stream flows toward said downstream region in the conduit, a back pressure is maintained at least in a region of the conduit between said location and said downstream region, and the pressure and temperature of the mixed stream in the conduit are maintained, by said back pressure, at levels such that the compressible fluid antisolvent substance is maintained in a compressible fluid antisolvent state.

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60(new). A process according to claim 58, wherein said material and said compressible fluid antisolvent substance are brought together at a location in a conduit having an orifice, said mixed stream flows in the conduit toward said downstream region, and a pressurized gas is introduced into mixed stream in said conduit between said location at which the material and said compressible fluid antisolvent substance are brought together and the orifice.

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61(new). A process according to claim 58, wherein said mixture flows through a conduit, the flow of the mixture in the conduit is restricted, by a restriction in the conduit between an upstream high pressure zone and a downstream lower pressure zone, and a flow control fluid is introduced into the conduit upstream of the restriction, the pressure of the flow control fluid being equal to or greater than the pressure of the mixture in the conduit upstream of the restriction.

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62(new). A process according to claim 58, wherein said mixture flows along a conduit, and a heat carrier fluid is introduced into the mixture flowing along the conduit.

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~~63~~(new). A process according to claim ~~58~~⁵⁹, wherein the material in the mixed stream is dried in said downstream region.

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~~64~~(new). A process according to claim ~~63~~⁶⁴, wherein material in the mixed stream is carried in an aqueous vehicle and dried in said downstream region.

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~~65~~(new). A process according to claim ~~63~~⁶⁴, wherein drying of said material is carried out by entraining particles of said material, in the downstream region, in a stream of gas.

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~~66~~(new). A process according to claim ~~63~~⁶⁴, wherein particles of said material separated from the mixture in a particulate state are collected.

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~~67~~(new). A particulate product material made using a process according to claim 1.

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~~68~~(new). A particulate product material made using a process according to claim ~~58~~⁵⁹.

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~~69~~(new). An apparatus suitable for performing a process as claimed in claim 1 comprising:

means (11, 13, 21, 23, 31, 33) for bringing a stream of a dispersion of the material in a solvent and a stream of a compressible fluid antisolvent substance into contact with each other such that the streams combine to form a mixture under conditions such that the antisolvent substance is in a compressible fluid antisolvent state,

a conduit (17, 27, 37) along which the mixture can flow, the conduit extending downstream from the region where the streams are brought into contact with each other toward an orifice (18, 28, 38),

means to cause the pressure and temperature of the mixture in the conduit (17, 27, 37) to be such that the substance remains in a compressible fluid antisolvent state along at least part of the conduit (17, 27, 37),

a downstream region (19, 29, 39) in direct downstream communication with the orifice, and

means to cause the pressure and temperature conditions in said downstream region to be such that the compressible fluid antisolvent substance in the downstream region is in a gaseous state.

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⁷¹
~~70~~ (new). An apparatus according to claim ⁷⁰~~69~~, wherein the means to cause the pressure and temperature of the mixture in the conduit (17, 27, 37) to be such that the substance remains in a compressible antisolvent state along at least part of the conduit (17, 27, 37) are means to cause the substance to remain in a supercritical fluid state.

⁷²
~~71~~ (new). An apparatus according to claim ⁷⁰~~69~~, wherein the means (11, 13, 21, 23, 31, 33) for bringing a stream of a dispersion of the material in a solvent and a stream of a compressible fluid antisolvent substance into contact with each other, and the conduit (17, 27, 37), comprise a "T" or "Y" tube system (15, 25) having limbs for carrying said streams and a stem providing the conduit (17, 27).

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~~72~~ (new). An apparatus according to claim ⁷²~~71~~, wherein the limbs are joined at a junction, and wherein an orifice (18, 28, 38) is provided at an end of the stem remote from the junction (15, 25) of the limbs.

⁷⁴
~~73~~ (new).. An apparatus according to claim ⁷⁰~~69~~ including introduction (319, 325) means for the introduction of one or more additive and/or modifier.

⁷⁵
~~74~~ (new). An apparatus according to claim ⁷⁴~~73~~, wherein the introduction means comprises an "X" tube arrangement (31, 33, 325, 37), comprising two limbs (31, 33) for introducing the respective streams of dispersion of material and compressible fluid antisolvent substance, a third limb (325) for introducing the additive and/or modifier, and wherein the conduit comprises a fourth limb (37).

⁷⁶
~~75~~ (new). An apparatus according to claim ⁷⁵~~74~~, wherein the introduction means comprises a further "T" or "Y" tube arrangement (37, 319), located downstream of the point where the dispersion and compressible fluid antisolvent substance are brought into contact with each other.

⁷⁷
~~76~~ (new). An apparatus according to claim ⁷⁰~~69~~, wherein the means to cause the pressure and temperature of the mixture in the conduit (17, 27, 37) to be such that the substance remains in a compressible fluid antisolvent state comprise the conduit (17, 27, 37) having dimensions such as to generate a back pressure in part or all of the conduit between the region where the streams are brought into contact with each other and the orifice (18, 28, 38).